



COLORADO

Air Pollution Control Division

Department of Public Health & Environment

Notice of a Proposed Action Warranting Public Comment

From: Scott Landes, Supervisor, Meteorology and Prescribed Fire Unit, Technical Services Program

Subject: Removing PM10 maintenance areas from “smoke sensitive” designation in prescribed fire permitting

Notice Period Begins: July 6, 2017

Introduction and Background Leading to Proposed Changes in Prescribed Fire Permitting

The Air Quality Control Commission (Commission) directed the Air Pollution Control Division (Division) to be especially protective of smoke sensitive areas. The Commission’s definition of a smoke-sensitive area is included in Regulation 9 (<https://www.colorado.gov/pacific/sites/default/files/5-CCR-1001-11.pdf>):

“Class I areas and other locations of scenic and/or important vistas, especially during periods of significant public use, urban and rural population centers, schools, hospitals, nursing homes, transportation facilities such as roads and airports, recreational areas, and other locations that may be sensitive to smoke impacts for health, safety and/or aesthetic reasons.”

Using this definition as a guideline, the Smoke Management Program (SMP) developed three criteria to define a smoke sensitive area:

- within 5 miles of a Census 2010 tract with population density ≥ 500 people/km²
- within 3 miles of a residential health care facility
- within a formal or informal PM10 maintenance area (current maintenance areas include Denver Metropolitan, Canon City, Lamar, Pagosa Springs, Telluride, Aspen, and Steamboat Springs)

The current smoke sensitive area map can be found at:

https://www.colorado.gov/pacific/sites/default/files/AP_OB_Smoke-Sens-Areas-Map.pdf

A prescribed fire permit issued by the SMP becomes more restrictive if the project is proposed in a location defined as a smoke sensitive area. The most significant restriction in the permit is the amount of acres that are allowed to be burned. For example, a permit for a prescribed fire in a non-smoke sensitive area may be allowed to burn up to 500 acres under excellent or very good ventilation conditions. The same permit in a smoke sensitive area would only allow 125 acres under the same ventilation conditions.

(Note: Class I areas, schools, non-residential health facilities, and transportation facilities, despite being considered smoke sensitive, are not included in the smoke sensitive area map above. Class I areas are primarily considered smoke sensitive due to the potential visual impacts of smoke, while health effects are less likely to be significant. Therefore Class I areas are subjected to a different set of permit restrictions that, while important, are not relevant to this document. Additionally, schools and non-residential health facilities do receive smoke mitigation measures within the permit to address health issues, usually in the form of a more restrictive wind direction allowed. Lastly, transportation facilities will also receive smoke

mitigation measures within the permit if a public health issue is expected in regards to PM10. However, protecting public safety from poor visibility on roads or airports is the responsibility of the permittee).

Returning to the three criteria listed above, the reasoning behind the first two is fairly obvious. First, in higher population areas the risk of adverse health impacts due to smoke is naturally increased. Second, residential health care facilities include both hospitals and retirement homes where residents already have compromised health; hence more restrictive burn permits are appropriate to protect this highly sensitive population.

For the third criteria, the initial rationale for including PM10 maintenance areas as smoke sensitive was that these areas were only marginally acceptable in regards to air quality levels. This reasoning has become less applicable in recent years since monitored PM10 values have remained well below the National Ambient Air Quality Standards (NAAQS) for every PM10 maintenance area since the 1990s or earlier (https://www.colorado.gov/airquality/tech_doc_repository.aspx?action=open&file=2015AnnualDataReport.pdf). This sustained attainment of the PM10 NAAQS includes both the revoked annual standard (50 µg/m³ as an annual arithmetic mean average over 3 years, revoked in 2006) and the current, more stringent, 24-hour standard (150 µg/m³ not to be exceeded more than once per year on average over a 3-year period). Furthermore, all of these maintenance areas are expected to be recommended as attainment to the U.S. Environmental Protection Agency (EPA) by the Commission in the 2020-2025 time period. Upon approval by the EPA, this process will likely terminate their respective maintenance plans and re-designate these areas as full attainment for the PM10 NAAQS.

Dating back to the 1990s, the SMP has periodically been approached by several entities in the fire community about the possible easing of permit restrictions in order to burn broadcast projects. The SMP recognizes the ecological benefits to prescribed fire, but also realizes that its core mission is the protection of public health from the potential hazards of wood smoke. A sensible compromise which would allow responsible broadcast burning by the fire community while continuing to protect public health is the removal of PM10 maintenance areas from smoke sensitive classification. By removing PM10 maintenance areas from smoke sensitive permit restrictions, the SMP believes that any short-term compromise to public health from prescribed fire smoke will be far outweighed by the long-term benefits of applying prescribed fire to highly vulnerable environmental areas. There are many benefits from prescribed fire including the reduced threat of catastrophic wildfires, recycling of nutrients back to the soil, promotion of tree and plant growth, and the removal of unwanted species that threaten native growth. Additionally, and perhaps most pertinent to the public health mission of the SMP, some recent studies have shown that prescribed burning may be an effective method in reducing fine particle emissions ("[Airborne measurements of western U.S. wildfire emissions: Comparison with prescribed burning and air quality implications](#)", 2017).

It should be noted that if this removal of PM10 maintenance areas from the smoke sensitive designation goes forward, the Division will pay closer attention to PM10 concentrations in these areas. If increases in PM10 concentrations due to prescribed fire activities are seen that could affect the designation of the area, restrictions would need to be re-implemented.

The removal of PM10 maintenance areas from the smoke sensitive designation would affect nearly 1.8 million acres across the state. The vast majority of this land is contained in Jefferson, Boulder and Douglas counties, including large sections of the Roosevelt and Pike National Forests. Smaller tracts of land would be impacted near Aspen, Pagosa Springs, Steamboat Springs, and Telluride. There would be no impact to the Canon City or Lamar areas. Figures 1 through 7 include maps of all areas that would be removed from the smoke sensitive classification, including two finer detail maps of the larger Roosevelt and Pike National Forests.

The Division hereby solicits submission of public comment from any interested person concerning the ability of the proposed action to comply with the applicable standards and regulations of the Commission. The Division will receive and consider written public comments for thirty calendar days after the date of this Notice. Any such comment must be submitted in writing or via e-mail to the following addressee:

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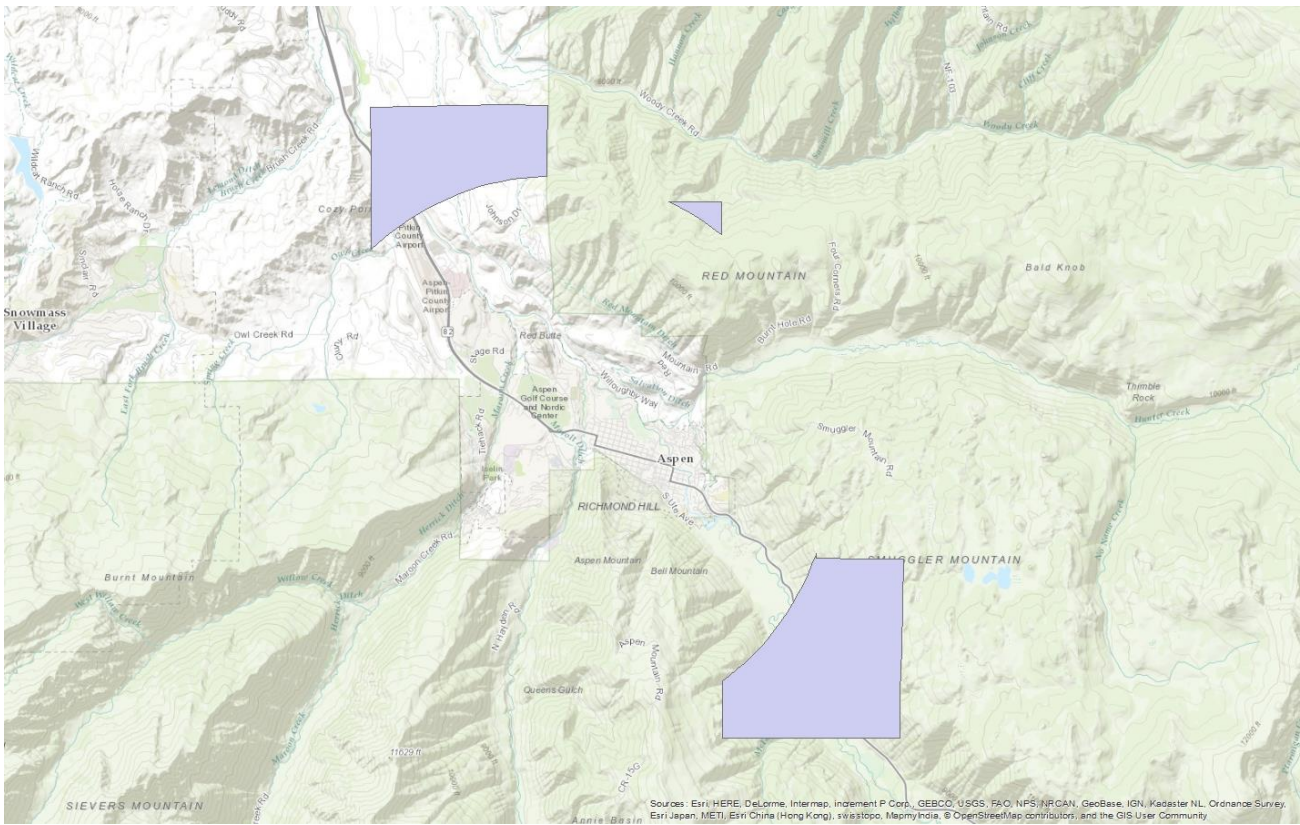


Figure 1: Aspen areas removed from smoke sensitive classification.

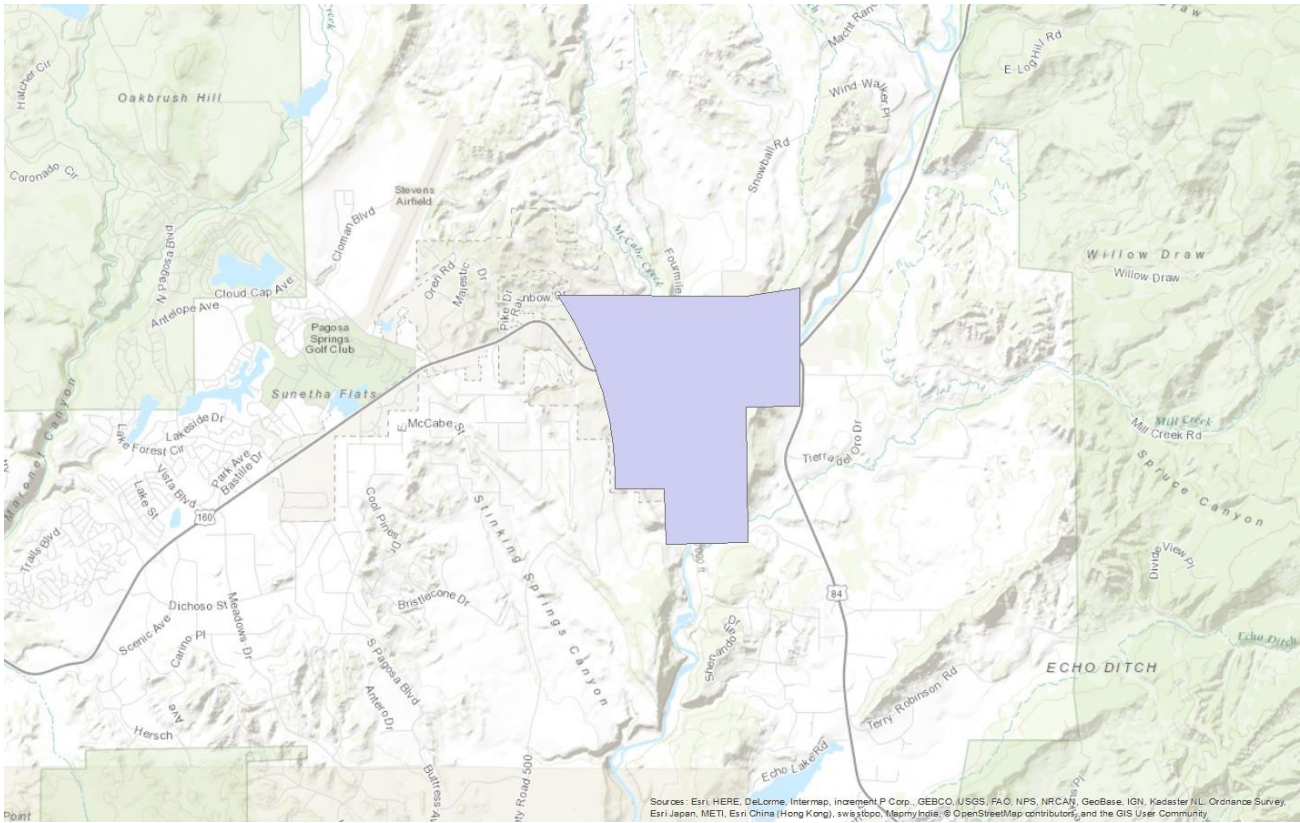


Figure 2: Pagosa Springs areas removed from smoke sensitive classification.

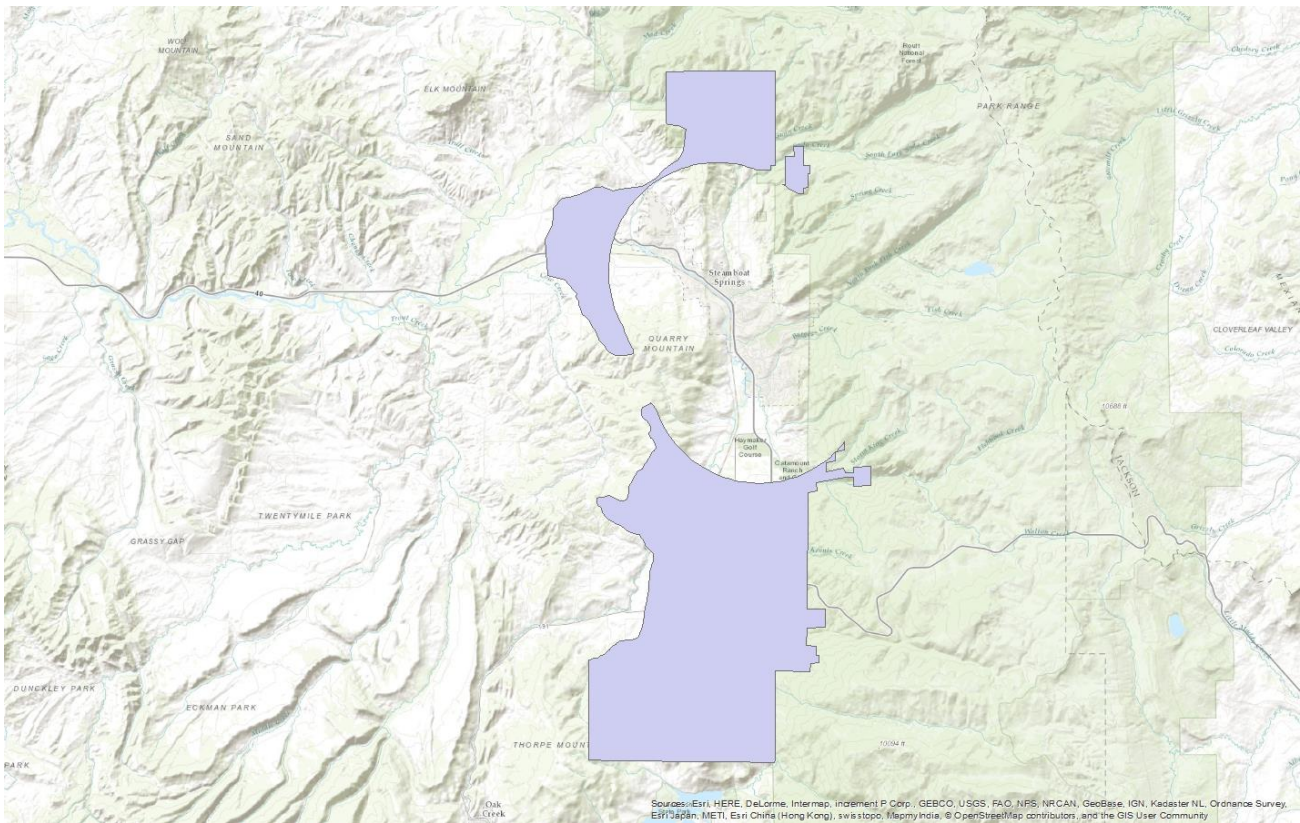


Figure 3: Steamboat Springs areas removed from smoke sensitive classification.

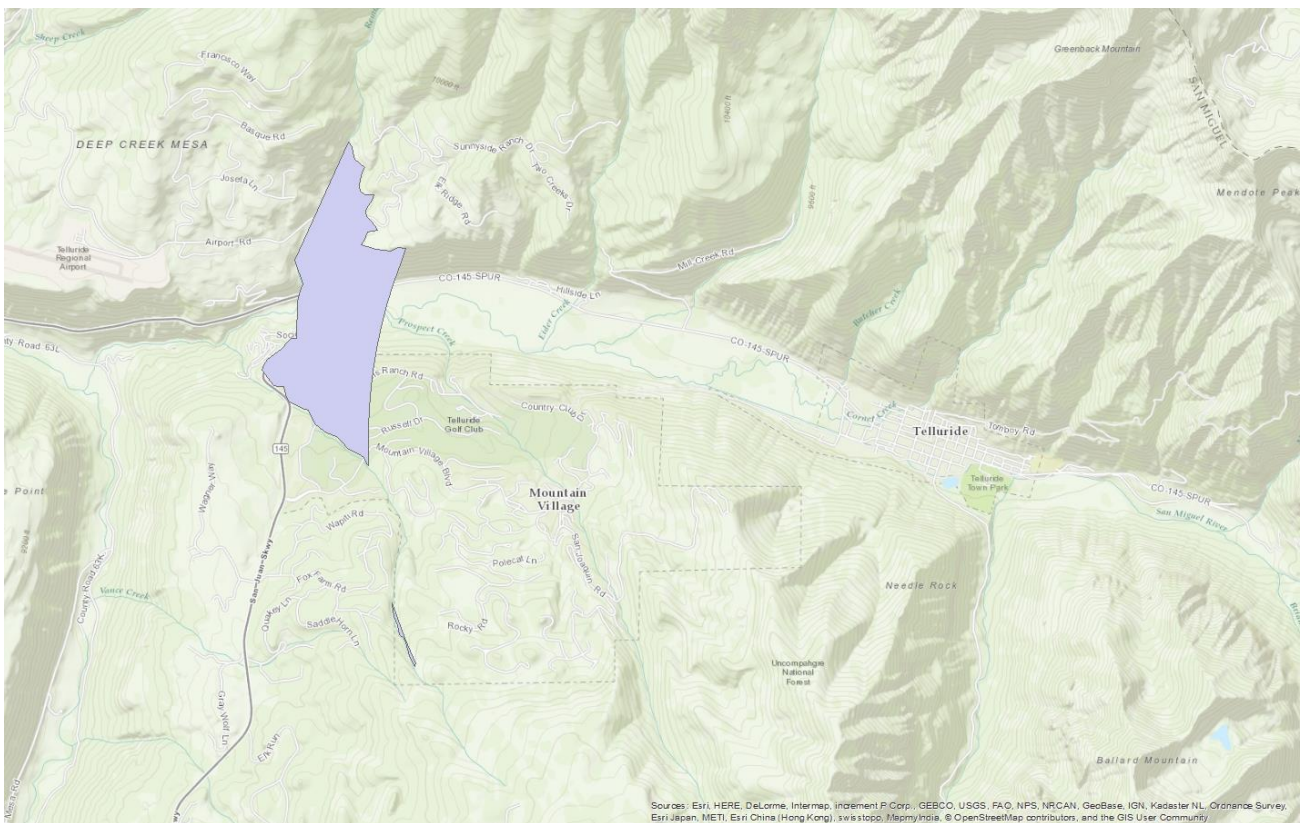


Figure 4: Telluride areas removed from smoke sensitive classification.

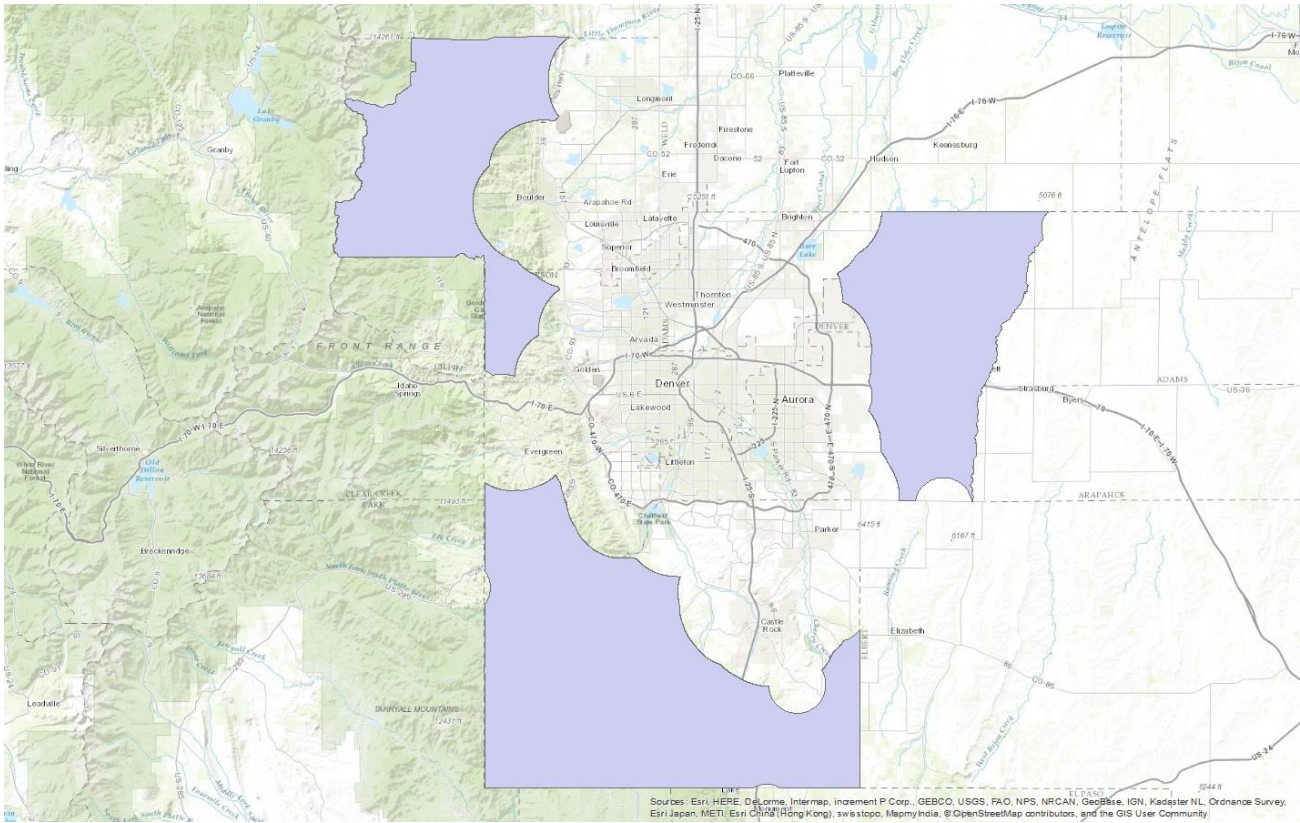


Figure 5: Denver/Boulder areas removed from smoke sensitive classification.

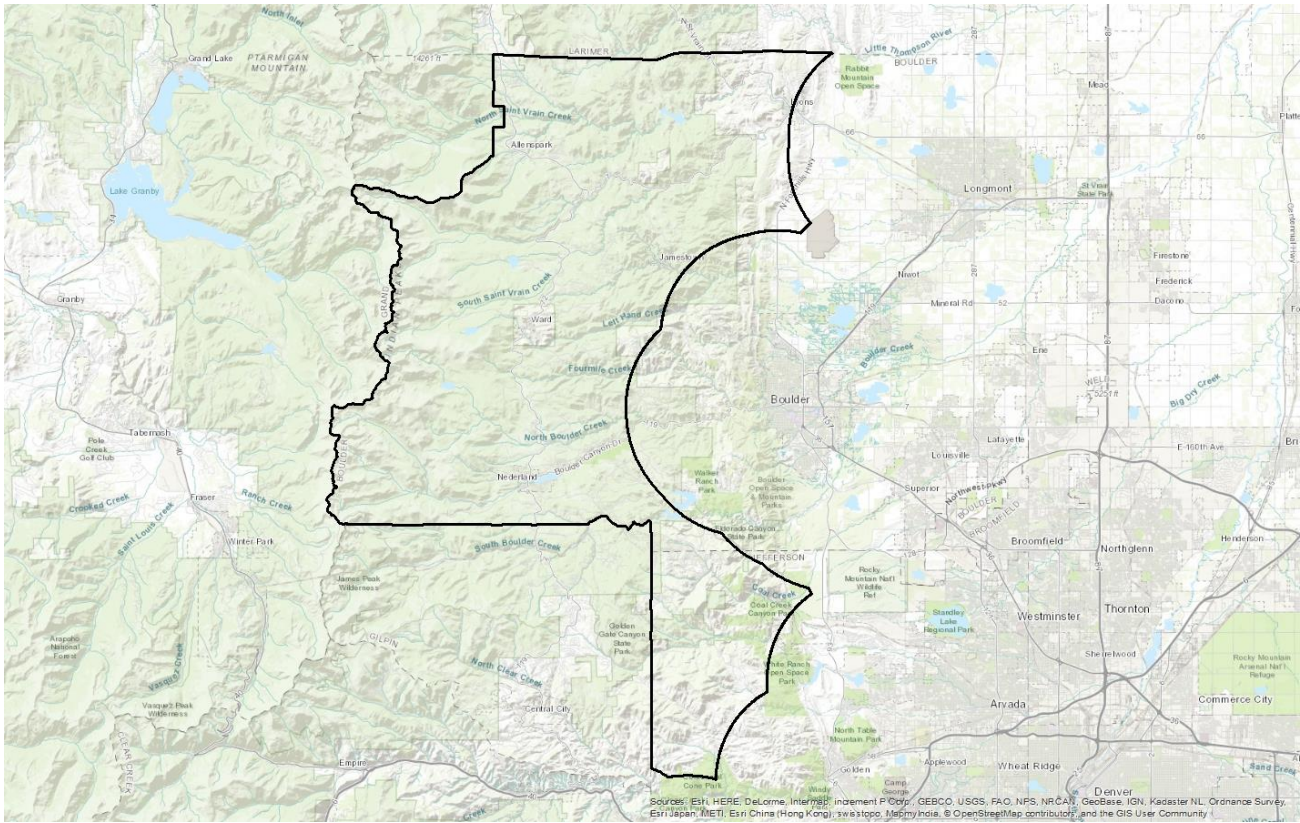


Figure 6: Roosevelt National Forest areas removed from smoke sensitive classification.

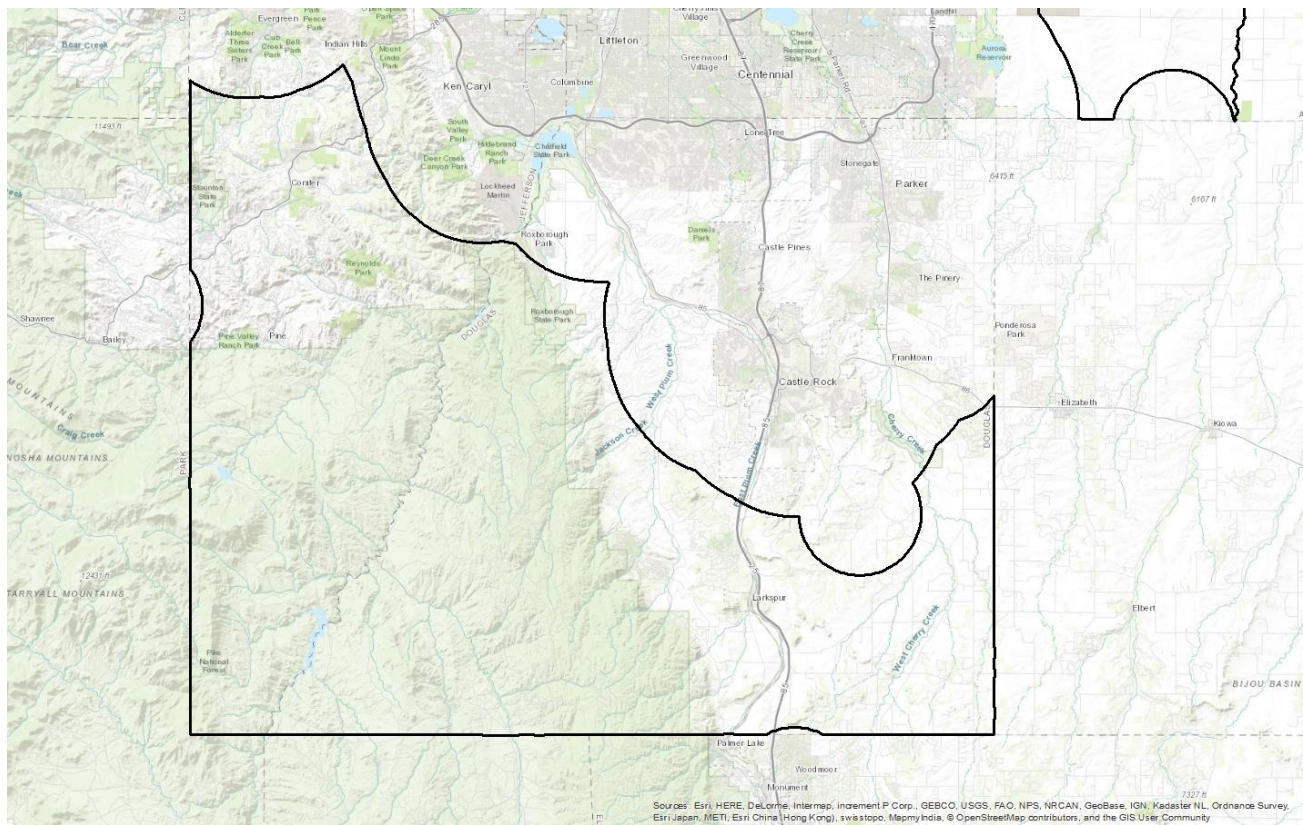


Figure 7: Pike National Forest areas removed from smoke sensitive classification.